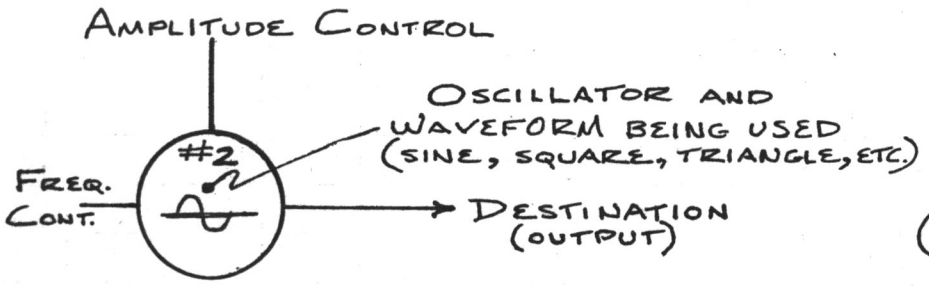
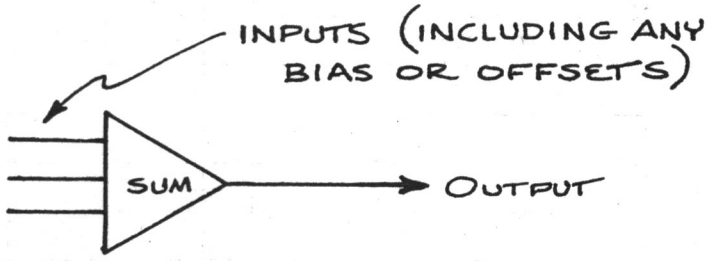
PATCH NOTATION

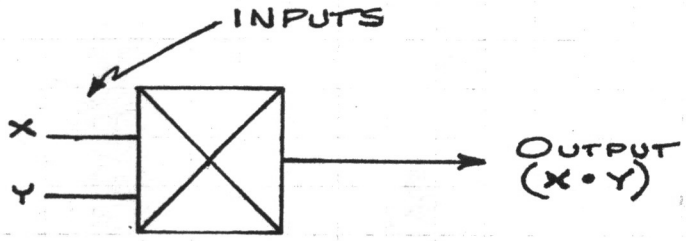


SIGNAL SOURCE
(USUALLY AN OSCILLATOR)

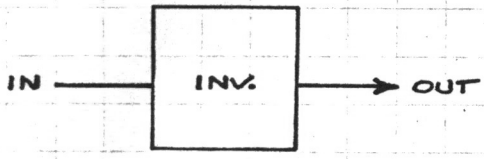
JOT DOWN SPECIAL DETAILS BENEATH:
(SPECIAL PHASE LOCK, FREE RUN, ETC.)

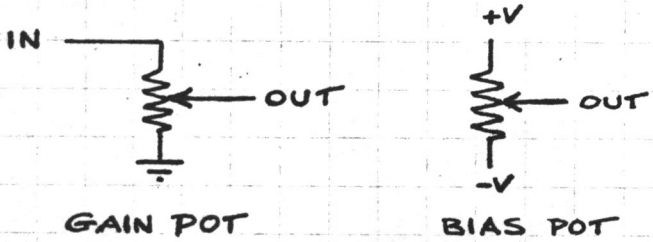


AMPLIFIER
(SUMMING, INVERTING, ETC.)



MULTIPLIER
(MULTIPLIES VOLTAGE APPLIED AT ONE INPUT BY VOLAGE APPLIED TO OTHER INPUT)



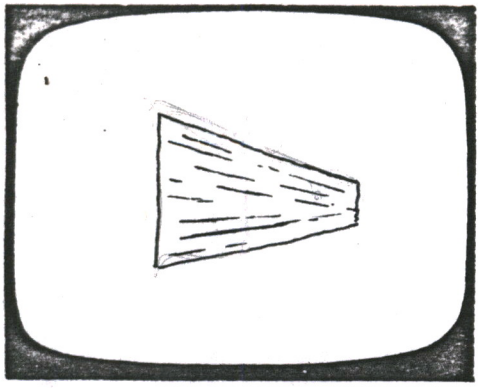


GAIN POT

BIAS POT

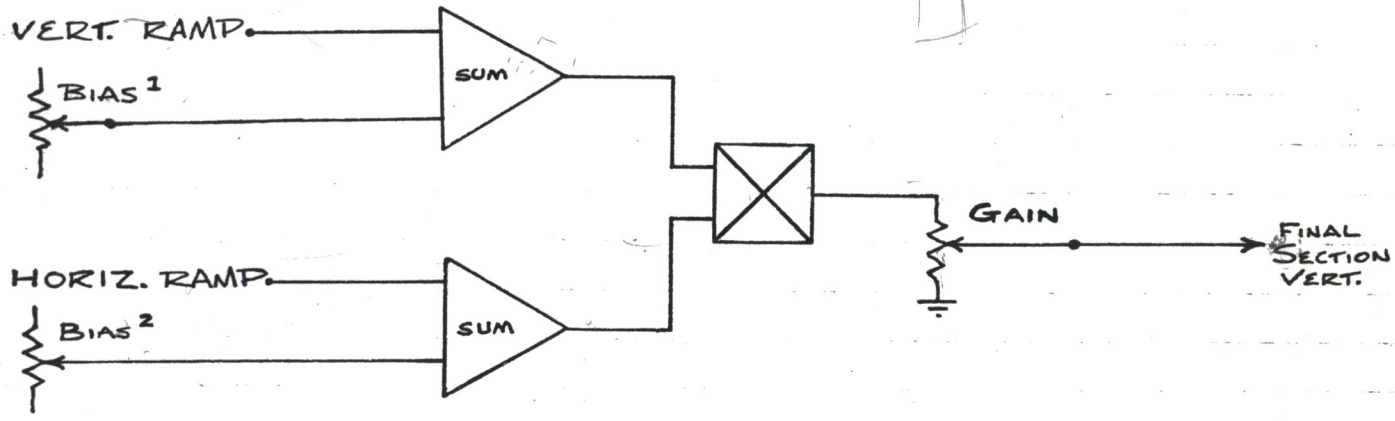
PROCESSING CIRCUITS INCLUDING (BUT NOT LIMITED TO):

- RECTIFIERS
- FILTERS
- COMPARITORS
- DIGITAL INVERTERS



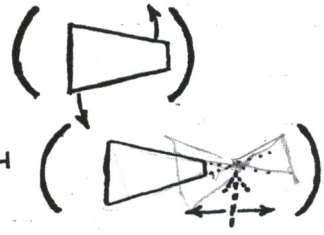
RASTER PINCH (MODIFIES RASTER LENGTH AT A HORIZONTAL RATE). KNOWN AS A "DOOR SWING" WHEN COMBINED WITH A TURN TO A LINE.

DIRECTION OF SCAN: ↔



BIAS 1 SETS APPARENT VERT. ANGLE

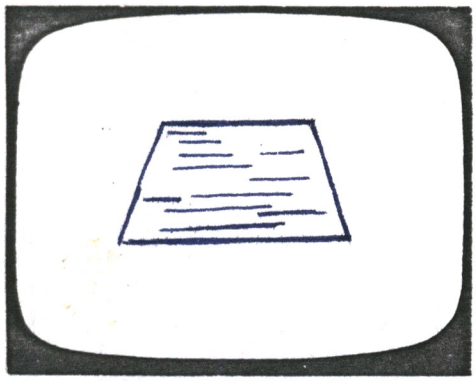
BIAS 2 SETS HOR. POSITION OF PINCH



GAIN SETS AMOUNT OF EFFECT ON RASTER

NOTE:

THIS SHAPING WILL NOT TRACK THROUGH DEPTH BUT MUST BE MULTIPLIED "ON" OR "OFF" PROPORTIONALLY AS DEPTH IS CHANGED.

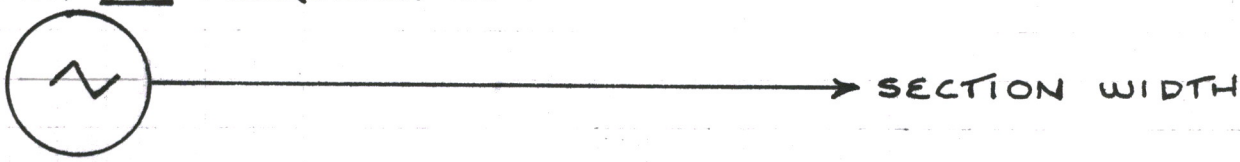


DIRECTION OF SCAN: ↔

"PERSPECTIVE" PINCH (WIDTH MODIFICATION AT A VERTICAL RATE)

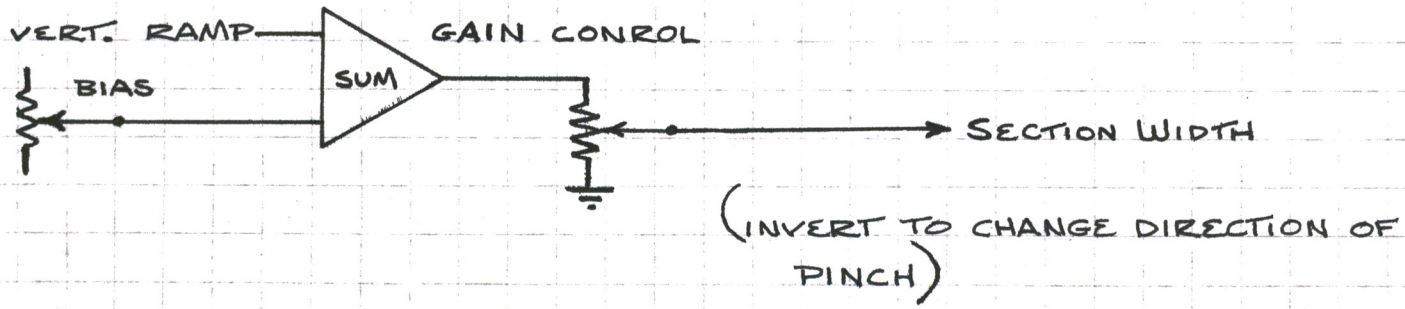
NOTE:
THIS SHAPING WILL TRACK A SECTION THROUGH DEPTH

ANY LOW FREQUENCY OSC.

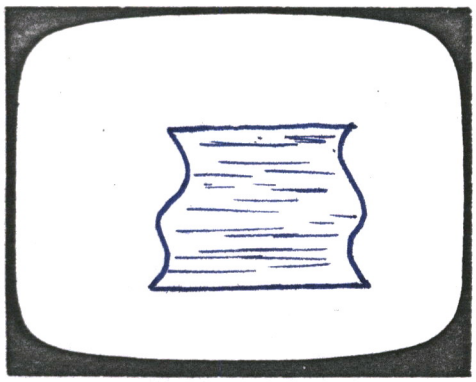


- TRIANGLE WAVEFORM AT A LOW FREQUENCY,
- PHASE LOCKED TO VERTICAL (SELECT "TOP" OR "BOTTOM" LOCK FOR APPROPRIATE DIRECTION OF PINCH")
- AMPLITUDE SETTING VARIES AMOUNT OF PINCH

ALSO

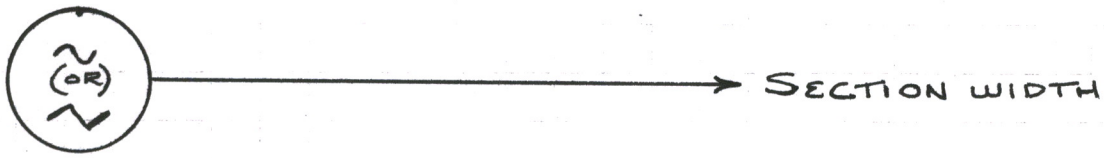


(INVERT TO CHANGE DIRECTION OF PINCH)



DIRECTION OF SCAN: ↔

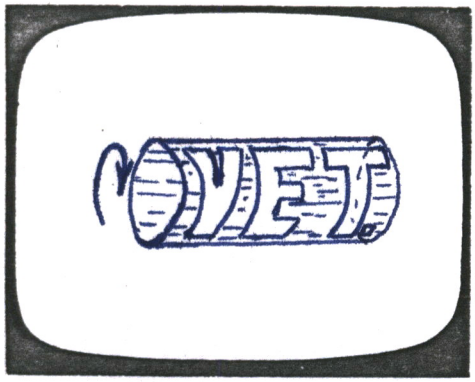
WIDTH DISTORTIONS (HOUR-GLASS PINCHES, SIDE BULGES, ETC.)



- AMPLITUDE VARIES AMOUNT OF DISTORTION
- FREQUENCY VARIES NUMBER OF WIDTH CHANGES
- WAVESHAPE VARIES "SHARPNESS" OF ANGLES/CURVES

NOTE: VARIOUS EFFECTS POSSIBLE, EXPERIMENT!

VERTICAL ROLL ("COKE ROLL")



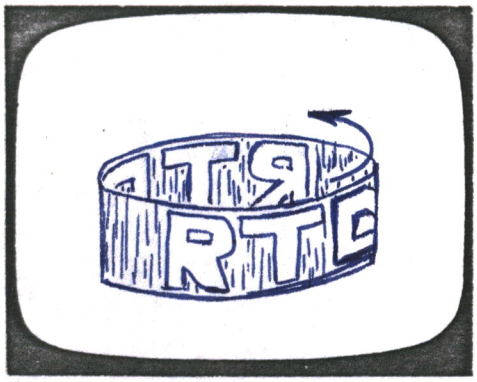
DIRECTION OF SCAN: ↔

SECTION LENGTH AT "0"

#3 (SIN) ~ → SECTION VERTICAL (EITHER FINAL VERT. OR, IF YOU WANT TO RESOLVE OUT OF IT, INITIAL VERT

#4 (COSINE) ~ → SECTION HORIZONTAL (SAME AS VERT. ABOVE)

- AMPLITUDE OF BOTH OSCILLATORS AFFECTS SIZE AND ANGULAR VIEW OF ROLL
- FREQUENCY CONTROLS SPEED OF ROLLING (WHEN IN FREE RUN)



DIRECTION OF SCAN: ↕

HORIZONTAL ROLL (ALSO A "COKE ROLL"

SECTION LENGTH AT "0". RASTER ORIENTED AT 90° (USE CPU "90°" SWITCH OR ROTATION IF MORE THAN ONE SECTION IS BEING ANIMATED)

PATCH SAME AS VERTICAL ROLL

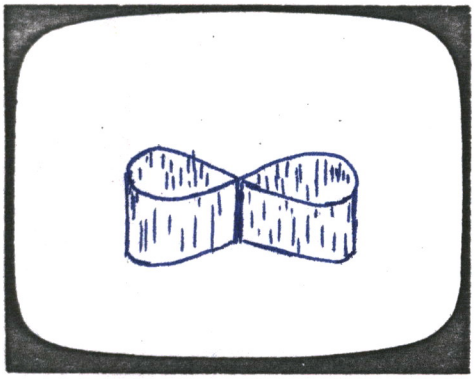
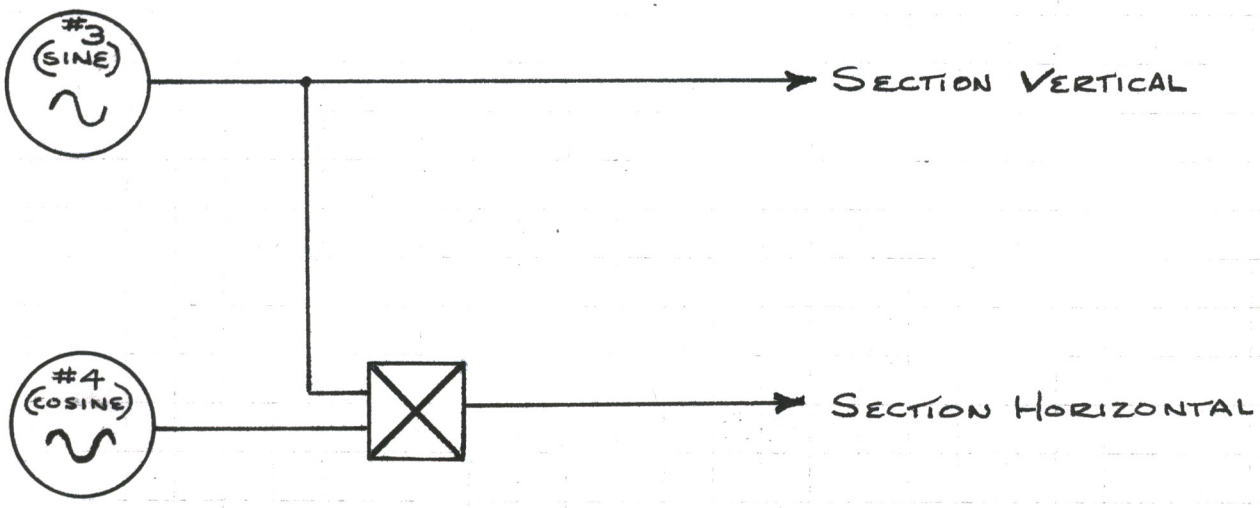
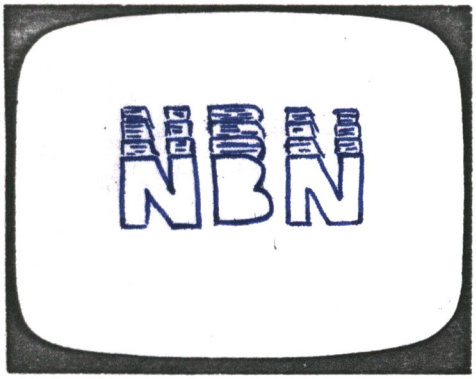


FIGURE 8 ROLLS (CAN BE DONE VERTICALLY OR HORIZONTALLY)

DIRECTION OF SCAN: ↕

SECTION LENGTH AT "O"





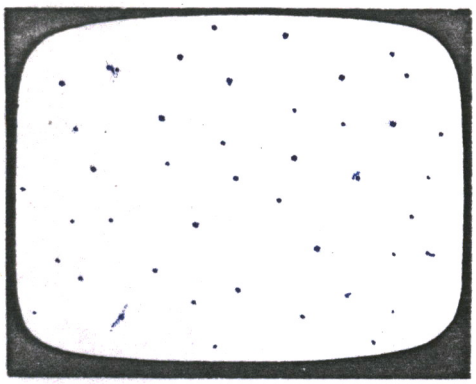
DIRECTION OF SCAN: ↔

OSCILLATOR STRETCH (ALSO KNOWN AS: "REASONER STRETCH", "MULTIPLE IMAGE STRETCH", "HOR. LINE PHASE LOCK", "STAIRSTEPPING". AT HIGHER FREQUENCIES THE EFFECT HAS AN INTERLACED SCISSOR LIKE QUALITY:

HIGH FREQUENCY OSC. #2

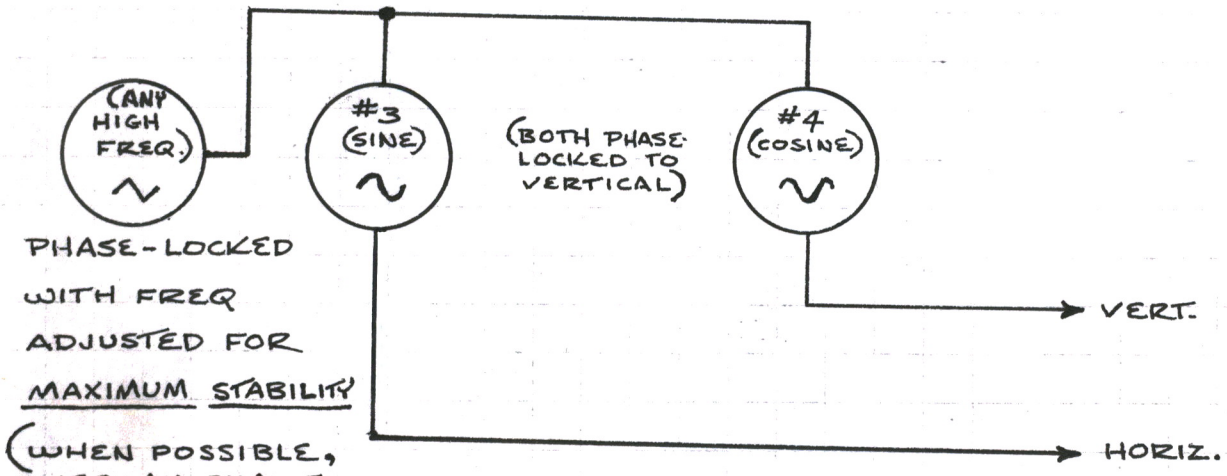
→ FINAL VERTICAL (ALSO CAN BE APPLIED TO HORIZONTAL, DEPTH, LENGTH; VARIOUS EFFECTS ARE POSSIBLE, EXPERIMENT!

PHASE LOCKED TO A HOR. LINE (SEE INSTRUCTIONS ON THE "PROGRAMMED PHASE LOCK & VERT. RESET DRIVER" WHICH AFFECTS OSCILLATORS #1 AND #2 IN THE ANIMATION CONTROLLER)



STATIC STAR FIELDS (ALSO CALLED "NIGHT SKY" BACKGROUND)

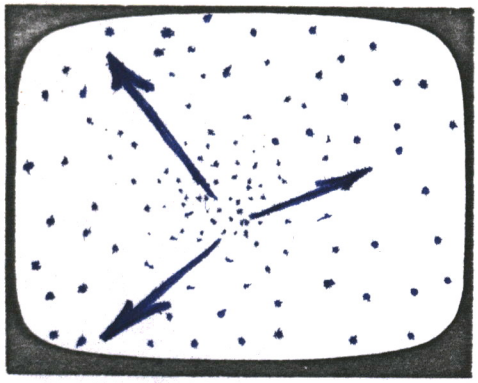
TAKE RASTER TO A DOT (DEPTH TO ZERO, OR LENGTH AND WIDTH TO ZERO)



PHASE-LOCKED WITH FREQ ADJUSTED FOR MAXIMUM STABILITY

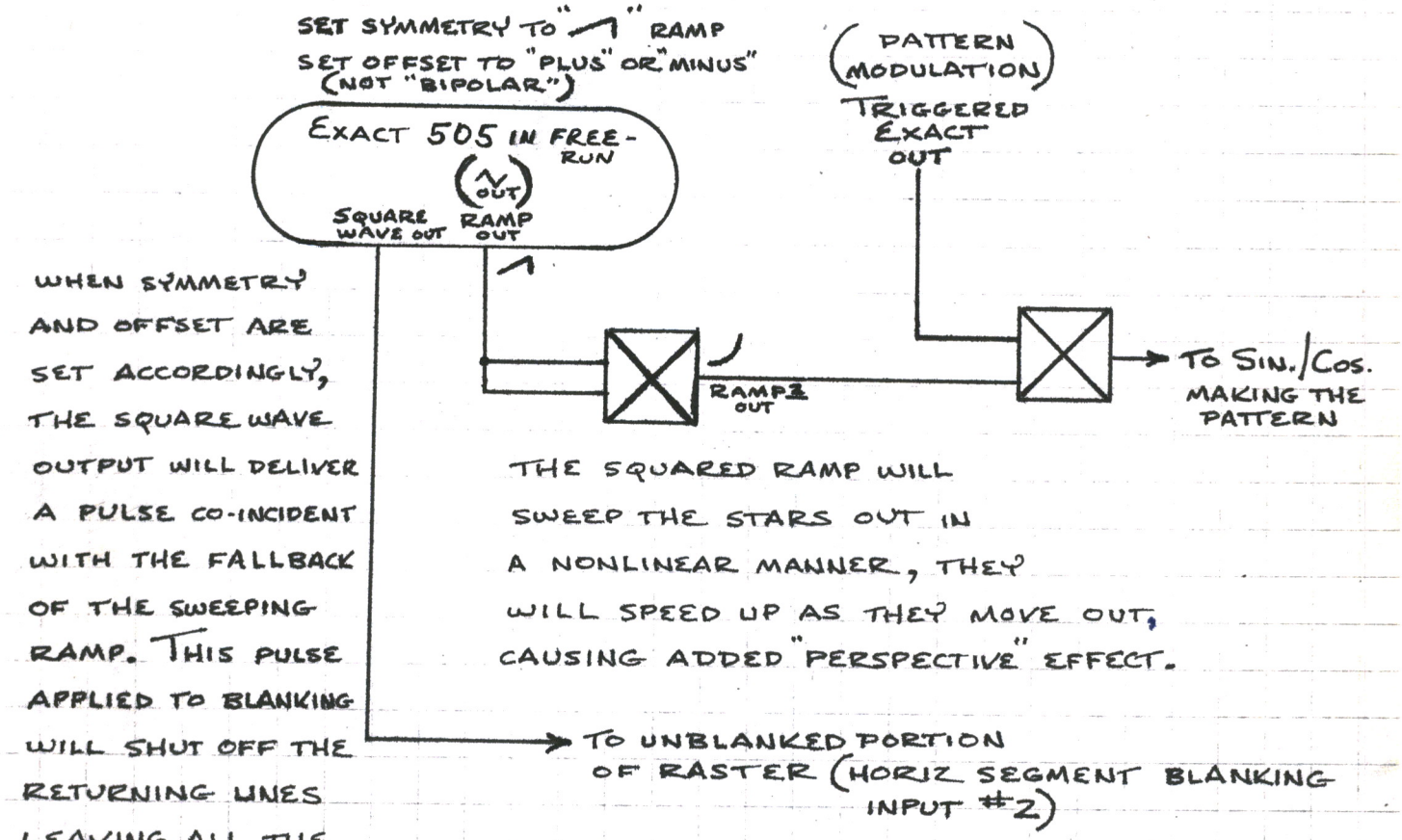
(WHEN POSSIBLE, USE AN EXACT OSC. IN A TRIGGER MODE FOR THIS PURPOSE)

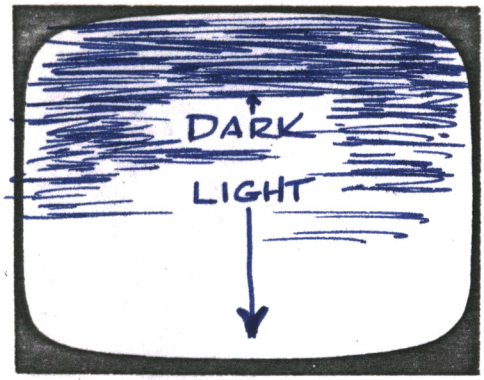
ADJUST BLANKING WITH HORIZ. SEGMENT #1 SO THAT ONLY THE END OF EACH RASTER LINE IS SEEN



Moving Star Fields

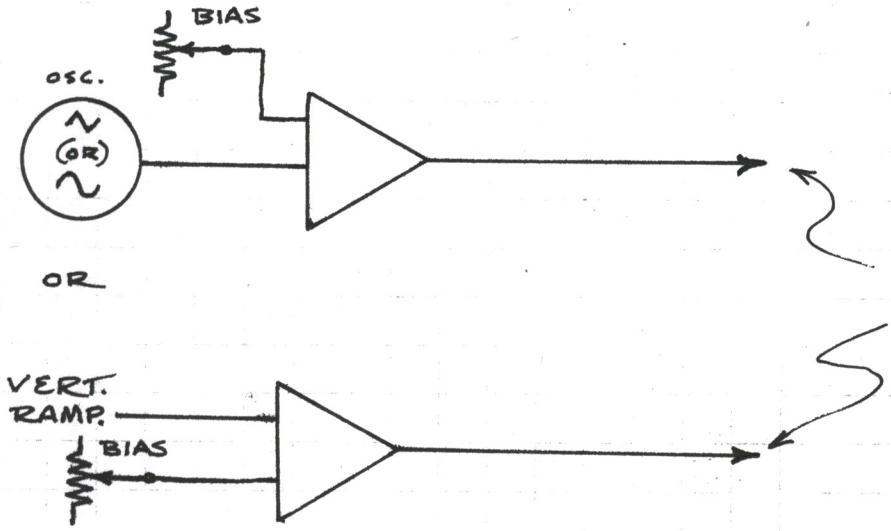
Begin with a static starfield,


SET SYMMETRY TO "↗" RAMP
SET OFFSET TO "PLUS" OR "MINUS" (NOT "BIPOLAR")
EXACT 505 IN FREE-RUN
(∿ OUT)
SQUARE WAVE OUT
RAMP OUT
(PATTERN MODULATION) TRIGGERED EXACT OUT
RAMP² OUT
TO SIN./COS. MAKING THE PATTERN
WHEN SYMMETRY AND OFFSET ARE SET ACCORDINGLY, THE SQUARE WAVE OUTPUT WILL DELIVER A PULSE CO-INCIDENT WITH THE FALLBACK OF THE SWEEPING RAMP. THIS PULSE APPLIED TO BLANKING WILL SHUT OFF THE RETURNING LINES LEAVING ALL THE "STARS" MOVING IN ONE DIRECTION ONLY ("OUT" OR "IN" DEPENDING UPON FREQUENCY SETTING).
THE SQUARED RAMP WILL SWEEP THE STARS OUT IN A NONLINEAR MANNER, THEY WILL SPEED UP AS THEY MOVE OUT, CAUSING ADDED "PERSPECTIVE" EFFECT.
TO UNBLANKED PORTION OF RASTER (HORIZ SEGMENT BLANKING INPUT #2)

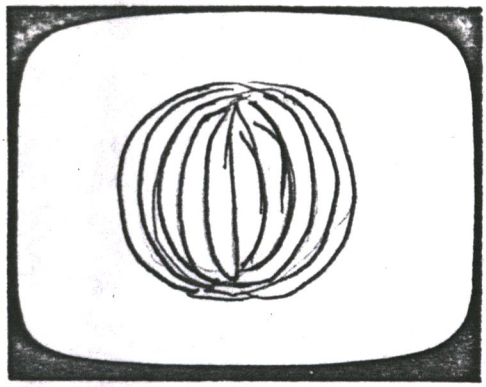


GRADED COLOR BACKGROUNDS

NOTE: COLORIZER "PED.", "LUMINANCE" AND "MIX" WILL AFFECT THIS SETUP (COLOR LEVEL, BLACKS SATURATION, ETC.)

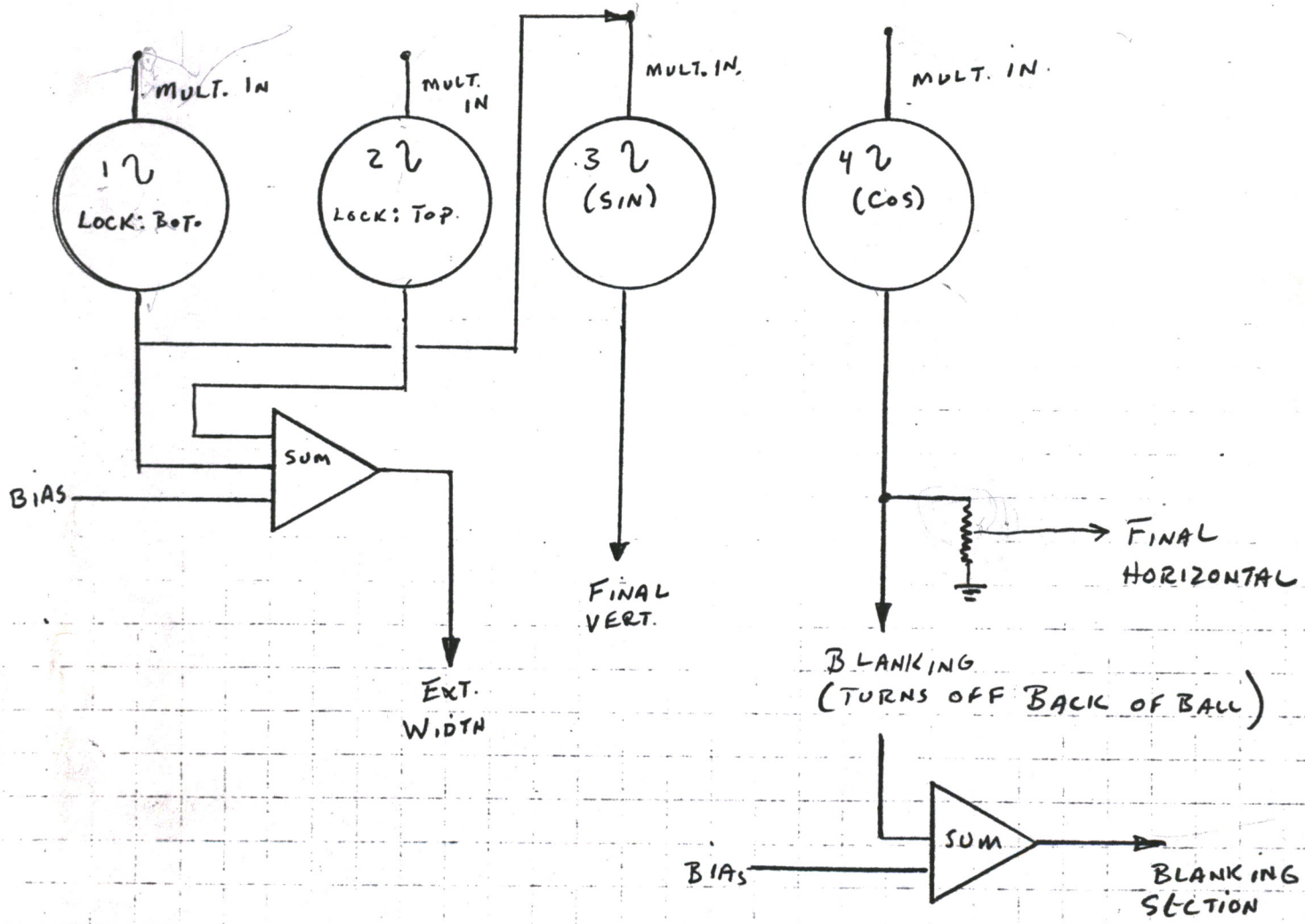

BIAS
OSC.
OR
VERT. RAMP
BIAS
TO DESIRED EXTERNAL BACKGROUND COLORS (THE RED GREEN AND BLUE PATCH POINTS IN THE PANEL ABOVE THE BLANKING CONTROLLER)

RASTER BALL

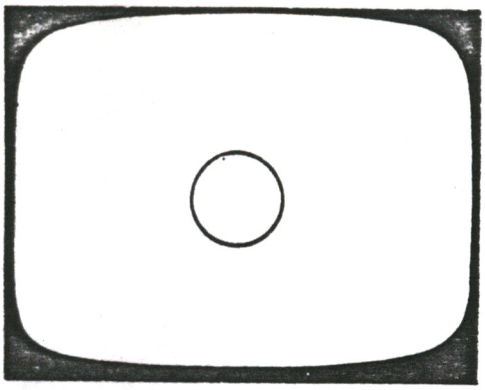


DIRECTION OF SCAN

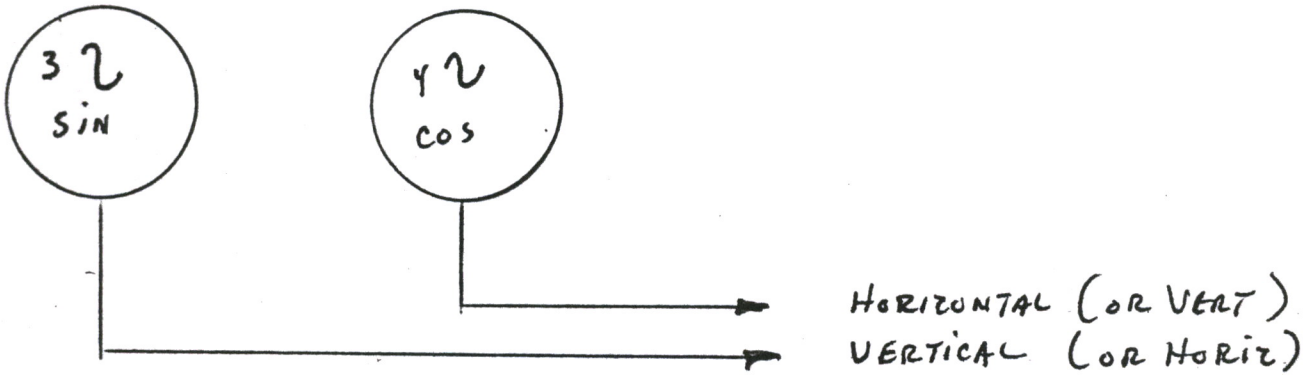
(USE 90° SWITCH @ CPU or ROTATION)



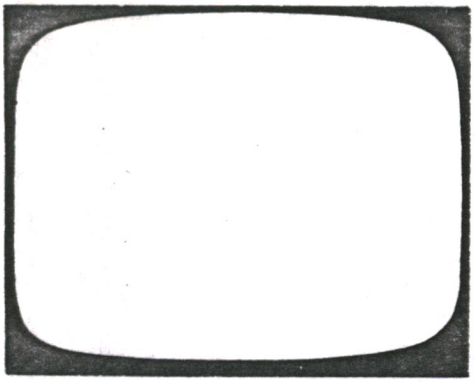
BASIC SIN/COS PATTERNS



DIRECTION OF SCAN



WITH OSC. SET IN ∿ PATERNS ARE ROUND OR ELLIPTICAL
WITH OSC SET IN ⩛ PATTERNS ARE SQUARE (DIAMOND)

ADDITIONAL PATTERNS ARE DEVELOPED W/ OSC 1, 2, & 5 MULTIPLIED THROUGH #3 & 4.

MOTION IS PROVIDED W/ RAMPS